

**FIVE-YEAR REVIEW
FOR THE WHITTAKER SITE
December 31, 1997**

EPA Region 5 Records Ctr.



159267

Whittaker Corporation
3134 California Street Northeast
Minneapolis, Hennepin County, Minnesota

5th Congressional District
Added to NPL - 9/21/84

INTRODUCTION

The Minnesota Pollution Control Agency (MPCA), as authorized through a Cooperative Agreement from the United States Environmental Protection Agency (US EPA), has conducted a Five-Year Review of the Remedial Action (RA) performed at the Whittaker Corporation, Minnesota Superfund Site (Whittaker Site). This review is intended to evaluate whether the RA remains protective of the public health and the environment.

Section 121 (c) of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as amended, and 40 C.F.R. § 300.430 (f)(4)(ii) of the national contingency Plan (NCP), requires periodic reviews (at least once every five years), be conducted for sites where hazardous substances, pollutants, or contaminants remain at the site after initiation of remedial actions for the site. The purpose of such a review is to determine the continued adequacy of the remedial actions implemented and to evaluate whether original clean-up goals remain protective of human health and the environment.

The Office of Solid Waste and Emergency Response (OSWER) Directive 9355.7-02 (Structure and Components of Five-Year Review, May 23, 1991) provides that US EPA will conduct five-year reviews as a matter of policy at (1) sites where no hazardous substances will remain above levels that allow unlimited use and unrestricted exposure after completion of the RA, but the clean-up levels specified in the Record of Decision (ROD) will require five or more years to attain, or (2) sites addressed pre-SARA at which the remedy, upon attainment of the clean-up levels, will not allow unlimited use and unrestricted exposure. This five-year review of the Whittaker Site was conducted in accordance with the first set of conditions stated above.

US EPA has established a three-tier approach to conducting five-year reviews, the most basic of which provides a minimum protectiveness evaluation (Type I review). US EPA determines that a Type I review will be appropriate in all but a relatively few cases where site specific circumstances suggest otherwise. The second and third levels (Type II and Type III) of review are intended to provide the flexibility to evaluate site-specific considerations, including the nature of the response action, the status of on-site response activities, and the proximity to populated areas and sensitive environmental areas. US EPA and the MPCA have determined that a Type I review is appropriate for the Whittaker Site. This Type I review will be placed in the site files for the Whittaker Site.

SITE HISTORY

The Whittaker Site covers approximately 7.5 acres and is located in Hennepin County, Minnesota (5th Congressional District). The Whittaker Site is shown in Figure 1. The Whittaker Corporation acquired this Site from American Petroleum Corporation in 1967. Whittaker operated the facility until 1980. The principal products produced at the Whittaker Site were industrial coatings and resins. Automotive product packaging was also production activity which took place at this facility. One of the chemicals found in the storage tanks on-site was propylene glycol, commonly called anti-freeze, which is thought to be one of the products packaged at this facility. Steel was also distributed from this facility. Chemicals were stored in approximately 28 aboveground tanks ranging in size from 2,000 to 200,000 gallons and 21 underground tanks ranging in size from 2,500 to 14,000 gallons. The tanks contained propylene glycol, styrene monomer, di-isobutyl ketone, methyl ethyl ketone, methyl isobutyl ketone, toluene, xylene, and other chemicals.

A variety of wastes were generated as a result of the processes used at the Whittaker Site. These wastes included tank bottoms, paint sludge, old paints, off-specification paints and resins, and cleaning fluids.

On September 24, 1981, the MPCA requested the Whittaker Corporation and Tool Tech Company to complete a Phase I study. The Phase I report was submitted by Whittaker/Tool Tech Company in January 1983. In response to a request from the MPCA, a ground water investigation was initiated by the Whittaker Corporation in early 1983. Monitoring wells were installed as part of that ground water investigation. Ground water samples were analyzed and found to contain benzene, tetrahydrofuran, methyl isobutyl ketone, 1,1-dichloroethane, cis and trans 1,2-dichloroethylene and chlorobenzene, xylene, 1,1,2-trichloroethylene, cadmium, and chromium. The Whittaker Corporation completed site specific soil treatment and removal and tank removal operations at the Whittaker Site in 1985.

Some soil sampling was done and ten monitoring wells were installed at the Site between 1983 and 1985. Specific response actions included during this period were:

- Removal of approximately 600 damaged drums and drum remnants with off-site disposal at a permitted RCRA facility.
- Excavation of approximately 10,000 cubic yards of visibly contaminated soil.
- Physical separation of resins from soils resulting in the shipment of 12 truck loads of hazardous waste materials to an out-of-state permitted RCRA facility.
- Off-site incineration of 25 drums of recovered solvents.

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- Excavation and thermal processing of soils on-site in an aggregate dryer. Landfarming of dried soils on-site to volatilize organics.
- Shipment of approximately 280 cubic yards of waste material off-site to a permitted RCRA facility.
- Installation of a ground water pump and treat system using two air strippers in series.

The ground water pump and treat system began operations on May 9, 1985. The response action goals for the pump out and treat system are:

Xylene:	500 ug/L.
Ethylbenzene:	1,400 ug/L
Toluene:	14.300 ug/L
Benzene:	6.6 ug/L

The MPCA issued a Request for Response Action (RFRA) to the Whittaker Corporation on April 23, 1985. In response to the work completed at the Whittaker Site, the RFRA was amended on November 26, 1985. The amended RFRA requires Whittaker Corporation to:

1. Continue operation of the pump out and ground water treatment system until specified response action levels are reached.
2. Continue monitoring the ground water at and surrounding the Site for specific parameters listed in the amended RFRA. Submit written reports of the data collected.
3. Follow a contingency plan spelled out in the event the system fails to achieve the response action levels specified.
4. Place notations on the property deed to notify purchasers of the existence of the amended RFRA and any resulting limitation on the use of the Whittaker Site, and
5. Follow the Site Closure plan spelled out in the RFRA.

The following are major submittals, approvals and actions taken by the Whittaker Corporation and the MPCA staff pursuant to the RFRA issued to the Whittaker Corporation on April 23, 1985, and as amended on November 26, 1985.

A Remedial Investigation Final Report (RI Final Report) was submitted by the Whittaker Corporation on June 14, 1985, and approved by the MPCA on July 5, 1985. The RI Final Report addressed the physical states and amounts of contamination; media affected by contamination; pathways by which contamination reached the media; extent and magnitude of contamination in the soil; extent and magnitude of contamination in the ground water; impact of ground water contamination; location, uses, depth, conditions and pump out rates of area wells; human and environmental exposure within a 1,000 foot radius of each identified source of contamination; RA alternatives identified and considered to eliminate or minimize the threat of contamination from releases or

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threatened releases at the Site; results of videologging the Whittaker Corporation industrial well; and, ground water pump test results.

An Interim Response Action (IRA) Report was also submitted on June 14, 1985 and approved by the MPCA on July 5, 1985. The IRA report addressed the types and amounts of contaminated material removed from the Site; provided the hazardous waste manifests and shipping papers; described the follow-up restoration performed at the Site and adjacent property; provided details of areas excavated; described backfill techniques for backfill placed on the excavation; and, provided an anticipated schedule for future Response Actions at the Site.

On July 30, 1985, the Whittaker Corporation submitted the following three reports:

1. An Alternatives Report.
2. A Detailed Analysis Report, and
3. A Response Action Implementation Report.

The MPCA approved all three reports on September 4, 1985.

The Alternatives Report evaluated various RA alternatives, the effectiveness of each alternative, the feasibility of each alternative and a recommendation to implement or drop from consideration each alternative. The Detailed Analysis Report provided a detailed description of the recommended alternatives; an environmental assessment for each of the recommended alternatives, and, a conceptual design of the recommended combination of alternatives. And finally, the Response Action Implementation Report spelled out the selected remedy and how that remedy would be installed and operated. The MPCA approved the Response Action Implementation Report with the modification of including future monitoring of 1,1-dichloroethylene and trichloroethylene in monitoring well number 10.

As required by the amended RFRA, the Whittaker Corporation installed a pump out system which ran from 1985 until July 11, 1994. The Whittaker Corporation alleged the pump out system was pulling contaminated ground water into the system from off-site areas. Based on this assumption, Whittaker Corporation unilaterally shut the system down. It has not been operated since July 11, 1994. The RFRA also required annual ground water monitoring and submission of an annual report documenting work completed during the previous year. Whittaker Corporation has not submitted an annual monitoring report since 1995 in violation of the RFRA.

In December 1993, Whittaker Corporation hired Delta Environmental Consultants, Inc. (Delta), a consultant, to oversee a test trenching operation. Delta dug six test trenches at the Site. Each trench was dug to the water table, a depth of approximately 15 to 17 feet below grade. Delta concluded from the analytical data collected that two areas of

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contaminated soils are present at the Site. One area in the middle of the Site showed low levels of xylene and ethylbenzene. The other contaminated area identified by Delta was previously owned by the Electro Static Finishing, Inc. and is currently owned by Applied Coatings Technologies, Inc. This area of the Site was adjacent to a former under ground storage tank area north of the Site.

SUMMARY OF JULY 1997 SITE VISIT

The MPCA completed an investigation of two areas immediately adjacent to the Whittaker Site in 1997 one north and one west of the Whittaker Site. MPCA staff's goal was to evaluate whether either of these two adjacent areas could be causing ground water to become contaminated and drawn into the Whittaker Site pump out system as the Whittaker Corporation alleged. MPCA staff did not find any evidence to support that theory.

On July 9, 1997, Mr. James MacArthur, of the MPCA, was present during excavations of soil on adjacent land west of the Whittaker Site. The field investigation performed adjacent to the Site was in response to the owner of 3K Paper Company for a determination of no association through the Voluntary Investigation and Cleanup program. Mr. MacArthur did not observe any substantial soil contamination during the time he observed the trenching being done by the 3K Paper Company consultant.

In 1997, MPCA staff reviewed reports and documentation supplied by Applied Coatings Technology, Inc., the company owning the property bordering on the north of the Whittaker Site. Based upon an evaluation of the data provided in these reports, MPCA staff are convinced soil or ground water contamination from the Applied Coatings Technology, Inc. site is not likely to be contributing to the high levels of ground water contamination remaining at the Whittaker Site.

In January 1998, the MPCA staff will be seeking authorization to spend state Superfund monies to investigate the magnitude and extent of soil contamination at the Whittaker Site and to investigate the magnitude and extent of ground water contamination at and downgradient of the Whittaker Site. When the Whittaker Corporation unilaterally terminated the pump out system, the contaminant levels in the ground water were still very high. The extent of soil and ground water contamination at and down-gradient of the Whittaker Site is still unknown. It is impossible to determine the risk posed by the Site without knowing the extent of contamination.

If an investigation determines either a soil or ground water remediation action is required, the MPCA will proceed to clean up the Site to an acceptable level to protect human health and the environment. The MPCA will seek to recover past costs from the Whittaker Corporation. If the investigation does not show levels of contamination sufficient to warrant a response action, the MPCA might consider removing the Whittaker Site from

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the state's Permanent List of Priorities if it no longer poses a threat to human health or the environment.

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)

EPA guidance requires states to review and analyze the remedial action at a site as it is affected by newly promulgated or modified Federal and State environmental laws, ARARs associated with the construction and long-term maintenance and monitoring of the remedial actions at the Whittaker Site were reflected in the response action levels stated in the RFRA. However, the ARARs have changed since the RFRA were approved. Therefore, the response action objectives will have to be re-evaluated using a risk based approach to determine whether the response action objectives need to be modified. The amended RFRA established the performance standard for xylene at 500 ug/L, ethylbenzene at 1,400 ug/L, toluene at 14,300 ug/L, and benzene at 6.6 ug/L.

The standards which must be addressed in a risk based determination for this Site are as follows:

Safe Drinking Water Act (SDWA), 40 C.F.R. Parts 141-143 establishes a Maximum Contaminant Level (MCL) for TCE and DCE. The MCL standard applies to municipal drinking water supplies.

Minnesota Rule 7050 establishes uses and non-degradation for waters of the state.

Minnesota Rule 7060 establishes uses and non-degradation for ground water.

Allowable emissions rates (AERs) for air strippers are a to-be-considered standard. Maximum AERs have been calculated for this Site by the Air Quality Division of the MPCA based on health risk assessments.

Minnesota Statute 103 H. Ground Water Protection Act. Establishes health risk limits (HRLs) for ground water contaminants.

Because of the changes in the ARARs since the issuance of the amended RFRA, the response action levels for this Site might have to be revised downward: for xylene at 10,000 ug/L, for ethylbenzene at 700 ug/L, for toluene at 1,000 ug/L, and for benzene at 5 ug/L.

EVALUATION OF EFFECTIVENESS OF INSTALLED REMEDY

The installed remedy was a ground water collection system consisting of a well (well number 8) and a sump (sump number 5) connected to a ground water treatment system.

During the nine years of operation, the contaminant levels in the ground water appeared to be declining over most of the Site. However, when the Whittaker Corporation ceased operations of the system on July 11, 1994, the level of contaminants remaining in the ground water in well number 8 far exceeded the response action levels and ground water criteria. The last data reported by the Whittaker Corporation for well number 8 showed Ethylbenzene concentrations at 17,000 ug/L, and Xylene at 34,000 ug/L. These data were derived from ground water samples collected on December 15, 1994.

After repeated attempts to have the Whittaker Corporation reinstate the pump out and ground water treatment system, MPCA has determined the company will not comply with our requests. The MPCA staff will be requesting authority to take over the response actions at the Whittaker Site using state Superfund money. We will also begin legal action to recover past costs associated with oversight of this Site and to recover costs associated with any response actions which need to be taken to remediate the Whittaker Site.

AREAS OF NONCOMPLIANCE

The remedies selected in the RFRA were implemented and were functioning appropriately until the Whittaker Corporation shut the system down on July 11, 1994. Whittaker Corporation is in total noncompliance with the conditions spelled out in the amended RFRA. The amended RFRA requests the Whittaker Corporation to 1) continue to operate the pump out and ground water treatment system until the response action levels are achieved, 2) continue long-term monitoring of the ground water on-site and off-site downgradient of the Whittaker Site, 3) provide the MPCA with annual reports detailing the data collected during the previous year, 4) submit a contingency plan to address why contaminant levels in the ground water were not declining, and 5) to submit a Site Closure Plan.

The Amended RFRA requested the Whittaker Corporation to operate the pump out and ground water treatment system until the response action criteria specified in the amended RFRA are achieved. The amended RFRA also spelled out which monitoring wells were to be sampled, recommended a sampling schedule, and set specific parameters to be sampled at specific wells. These data were to be reported annually in a report to the MPCA.

The Whittaker Corporation operated the pump out and treatment system for nine years. In a letter to EPA, the Whittaker Corporation explained they were going to shut down the system because they decided the contaminant levels were remaining elevated by pulling contamination into their property from the property to the north of pump out well number 8. They did not provide any analytical data to support their claim. Nor did they request permission to shut the system down. On July 11, 1994, the Whittaker Corporation shut the pump off and have not restarted the system as far as we know. This action was taken

without permission of either the MPCA or the EPA. The ground water on the Whittaker Site, according to the last round of analytical data, exceeds the response action levels clearly spelled out in the amended RFRA and therefore is out of compliance with the amended RFRA.

The Whittaker Corporation has ceased monitoring the ground water on and adjacent to the Site as requested in the amended RFRA. Since they are not monitoring or pumping ground water, the Whittaker Corporation has ceased providing monitoring data from the monitoring wells on-site and off-site as requested in the amended RFRA. This is out of compliance with the amended RFRA.

The amended RFRA requested Whittaker to write a Contingency Plan and submit the plan to the MPCA for approval two years after the effective date of the amended RFRA, if two consecutive quarterly monitoring events show the concentration of any of the hazardous substances specified in the amended RFRA in the surficial draft aquifer to be at a level greater than the response action level set in the amended RFRA. After nine years of consistently elevated Xylene and Ethylbenzene, the Whittaker Corporation has not submitted a Contingency Plan. This is out of compliance with the amended RFRA.

The Whittaker Corporation was directed to draft a Site Closure Plan and submit the plan to the MPCA for review and approval. The Site Closure plan was to spell out the specifics of how the system was to be closed down. The amended RFRA also requested deed restrictions to be added to the property deed to notify purchasers of the existence of the amended RFRA and any resulting limitation on the use of the Whittaker Site. A Site Closure Plan has not been submitted nor are we aware of the addition of any deed restrictions on the property deed. This is out of compliance with the amended RFRA.

RECOMMENDATIONS

1. The MPCA staff will be requesting the MPCA Commissioner to issue a Determination of Inadequate Response (DIR) to the Whittaker Corporation. The DIR is based on Whittaker Corporation's failure to comply with the directives of the RFRA and amended RFRA.
2. If the MPCA Commissioner issues the DIR, the MPCA staff will oversee the remediation of the Whittaker Site using State Superfund money. A consultant will be retained to determine the magnitude and extent of the ground water plume off-site. Based upon that information, MPCA staff will decide whether to task the consultant to also determine the magnitude and extent of the soil contamination on-site.
3. The MCA staff will request the state's Attorney General to seek cost recovery from the Whittaker Corporation to recover past oversight costs and to recover future response action costs.

STATEMENT OF PROTECTIVENESS

The ground water pump out and ground water treatment system was successful in decreasing the contaminant loading over the nine years of its operation. The pump out system did remove a significant loading of contaminants during the nine years of operation. However, the concentrations in well number 8 were still above the response action levels. Based on these facts, it appears likely some additional response actions will be necessary to bring the Whittaker Site into compliance with current ARARs.

NEXT REVIEW

After the next five-year review, if the contaminants of concern are below the response action levels established by a risk based determination taking the current ARARs into consideration, no further five-year reviews would be warranted. The next five-year review will be due in the first quarter of fiscal year 2003. However, if the contaminants of concern remain above the response action levels set using the controlling ARARs, five-year reviews will be necessary until appropriate response action levels are achieved.

IMPLEMENTATION REQUIREMENTS

Prior to the next five-year review, the aforementioned recommendations should be addressed.

